

Appln. No. 09/865,394
Response dated Dec. 8, 2005
Reply to Office Action of Sep. 8, 2005
Docket No. 6169-200

IBM Docket No. BOC9-2000-0064

Amendments to Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

Listing of Claims:

1. (Currently Amended) A node exposing method, comprising:

obtaining from a display map, at least one reference to at least one node, wherein each node is associated with a display element displayable in said display map, and wherein each node has a plurality of selectively presentable attributes, wherein each attribute is alternately presented in one of a plurality of pre-selected visual formats, each visual format corresponding to a different discrete quantized value, and wherein each node represents a component in a complex heterogeneous system, and wherein each display element is capable of simultaneously displaying a plurality of attributes of an associated node;

receiving at least one data metric from said component;

converting said at least one data metric into an updated value; and

providing said updated value to said display map, said display map updating the display element in the display map to reflect the updated value, wherein said obtaining, said receiving, said converting, and said providing steps are performed within a software agent, wherein said software agent is a platform-independent software object, and

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wherein said display map simultaneously displays said display elements in a planar fashion.

2. (Previously Presented) The method according to claim 1, wherein said updated value is used for computing an indicator for representing at least one attribute of said node, said method further comprising the step of:

displaying said computed indication on said display map within the display element.

3. (Canceled)

4. (Currently Amended) A node exposing method, comprising:

providing by request to a plurality of software agents, references to a plurality of nodes wherein each node is associated with a display element displayable in a display map, wherein each node represents a component in a content delivery network (CDN), and wherein each display element is capable of simultaneously displaying a plurality of attributes of an associated node, each attribute being alternately presented in one of a plurality of pre-selected colors, each color corresponding to a different discrete quantized value;

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each of said-agents, receiving at least one data metric from associated ones of said components;

each of said receiving agents, computing at least one updated node value responsive to receiving said data metrics; and

updating at least one of the display elements in the display map with said updated node values received from said agents, wherein said display map simultaneously displays said display elements in a planar fashion.

5. (Canceled)

6. (Currently Amended) A node exposing system, comprising:

a display map for displaying a plurality of display elements, each display element associated with a node, wherein each display element is visually presented in a pre-selected visual format that corresponds to a discrete quantized value that represents at least one reported value for an attribute of the associated node, and wherein each display element is capable of simultaneously displaying a plurality of attributes of an associated node;

a plurality of components distributed across a heterogeneous network; and

a plurality of agents configured to acquire references to individual ones of said nodes, said agents obtaining updated values for particular nodes from data metrics

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obtained from associated ones of said components, said agents reporting said updated values to said nodes, said nodes responsively updating associated display elements, wherein said display map simultaneously displays said display elements in a planar fashion.

7. (Currently Amended) A machine readable storage having stored thereon, a computer program having a plurality of code sections for exposing a node, said code sections executable by a machine for causing the machine to perform the steps of:

obtaining from a display map, at least one reference to at least one node, wherein each node is associated with a display element displayable in said display map, and wherein each node has a plurality of selectively presentable attributes, wherein each attribute is alternately presented in one of a plurality of pre-selected visual formats, each visual format corresponding to a different discrete quantized value, and wherein each node represents a component in a complex heterogeneous system, and wherein each display element is capable of simultaneously displaying a plurality of attributes of an associated node;

receiving at least one data metric from said component;

converting said at least one data metric into an updated value; and

providing said updated value to said display map, said display map updating the display element in the display map to reflect the updated value, wherein said obtaining,

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said receiving, said converting, and said providing steps are performed within a software agent, wherein said software agent is a platform-independent software object, and wherein said display map simultaneously displays said display elements in a planar fashion.

8. (Previously Presented) The machine readable storage according to claim 7, wherein said updated value is used for computing an indicator for representing at least one attribute of said node, said machine readable storage further comprising the step of:
displaying said computed indication on said display map within the display element.

9. (Canceled)

10. (Currently Amended) A machine readable storage having stored thereon, a computer program having a plurality of code sections for exposing a node, said code sections executable by a machine for causing the machine to perform the steps of:

providing by request to a plurality of software agents, references to a plurality of nodes wherein each node is associated with a display element displayable in a display map, wherein each node represents a component in a content delivery network (CDN), and wherein each display element is capable of simultaneously displaying a plurality of

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attributes of an associated node, each attribute being alternately presented in one of a plurality of pre-selected colors, each color corresponding to a different discrete quantized value;

each of said-agents, receiving at least one data metric from associated ones of said components;

each of said receiving agents, computing at least one updated node value responsive to receiving said data metrics; and

updating at least one of the display elements in the display map with said updated node values received from said agents, wherein said display map simultaneously displays said display elements in a planar fashion

11. (Canceled)

12. (Previously Presented) The node exposing method of claim 1, wherein said display map includes a plurality of said nodes, and wherein particular ones of said nodes receive updated values provided by a plurality of different software agents.

13. (Previously Presented) The node exposing method of claim 4, wherein a plurality of different agents receive at least one data metric from one of said components.

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14. (Previously Presented) The node exposing method of claim 4, wherein for particular ones of said agents said at least one data metric comprises a plurality of data metrics, and wherein said at least one updated node value comprises a plurality of updated node values, wherein said plurality of updated node values for said component are displayed within an associated one of the display elements.

15. (Previously Presented) The system of claim 6, wherein a plurality of said agents receive data metrics from one of said components.

16. (Previously Presented) The system of claim 6, wherein a plurality of updated values associated with one of said components are displayed within one of said display elements presented within said display map.

17. (Previously Presented) The machine readable storage according to claim 7, wherein said display map includes a plurality of said nodes, and wherein particular ones of said nodes receive updated values provided by a plurality of different software agents.

18. (Previously Presented) The machine readable storage according to claim 10, wherein a plurality of different agents receive at least one data metric from one of said components.

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19. (Previously Presented) The machine readable storage according to claim 10, wherein for particular ones of said agents said at least one data metric comprises a plurality of data metrics, and wherein said at least one updated node value comprises a plurality of updated node values, wherein said plurality of updated node values for said component are displayed within an associated one of the display elements.

20. (Previously Presented) The node exposing method of claim 1, wherein said display map includes a plurality of the display elements, said method further comprising the step of:

identifying at least one display map parameter relating to at least one of the attributes; and

setting each node so that each associated display element is adjusted to present attributes in accordance with the at least one display map parameter.